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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/021,541	12/17/2001	Lev Smolyar	884.654US1	1800

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EXAMINER

BHATTACHARYA, SAM

ART UNIT	PAPER NUMBER
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2687

DATE MAILED: 05/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/021,541	<b>Applicant(s)</b> SMOLYAR ET AL.	
	<b>Examiner</b> Sam Bhattacharya	<b>Art Unit</b> 2687	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>11/18/04</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1-4, 6, 7, 9-14, 17-19 and 21-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Dahlman et al. (US 6,173,162 B1).

Regarding claims 1 and 9-12, Dahlman et al. disclose a communication apparatus that is part of a CDMA system, the communication apparatus including a channel estimator 28 to estimate channel parameters for a communication channel based on a signal received from the communication channel, and a quality measure target generator 25 to generate a quality measure target value for the communication apparatus using channel parameters estimated by said channel estimator, said quality measure target value representing a desired value for a quality measure associated with the communication apparatus. See FIG. 4 and col. 6, lines 9-20.

Regarding claims 2 and 16, Dahlman et al. disclose that the quality measure target generator generates an SIR target value. See col. 6, lines 18-20.

Regarding claims 3 and 13, Dahlman et al. disclose that the quality measure target generator includes a quality measure target estimator 25 to determine an estimated quality measure target value using channel parameters estimated by said channel estimator and a quality measure target correction unit to correct said estimated quality measure target value based on performance information. See col. 6, lines 16-25.

Regarding claims 4 and 14, Dahlman et al. disclose that the performance information includes BLER information. See col. 6, lines 9-12.

Regarding claims 6 and 7, Dahlman et al. disclose a quality measure estimator 25 to estimate an actual quality measure value for a signal received from the communication channel, and a message generator to generate a power control message based on the estimated quality measure value and quality measure target value. See col. 6, lines 16-25.

Regarding claim 17, Dahlman et al. disclose a performance estimator 28 to estimate a performance parameter of the communication apparatus. See col. 5, lines 54-60 and col. 6, lines 9-14.

Regarding claim 18, Dahlman et al. disclose that the performance estimator estimates a receive error rate of the communication apparatus and the quality measure target generator uses the receive error rate to generate the quality measure target value. See FIG. 4.

Claim 19 incorporates the limitations of claims 3 and 17, and is therefore rejected for the same reasons as claims 3 and 17.

Claim 21 incorporates the limitations of claims 6, 7 and 17, and is therefore rejected for the same reasons as claims 6, 7 and 17.

3. Claims 30-34, 36 and 39 are rejected under 35 U.S.C. 102(e) as being anticipated by Kanemoto et al. (US Patent Application Publication No. 2002/0160721 A1).

Regarding claims 30, 36 and 39, Kanemoto et al. disclose a base station system comprising: antenna 101 to receive a signal from a communication channel; despreader 104 coupled to the antenna to despread the signal using code division multiple access techniques; a channel estimator 107, 108 coupled to the despreader to estimate channel parameters for the communication channel based on information from the despreader, and a quality measure target

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generator 115, 116 to generate a quality measure target value for the system using channel parameters estimated by said channel estimator, said quality measure target value representing a desired value for a quality measure associated with the system. See FIG. 1, and paragraphs [0030] – [0032].

Regarding claim 31, Kanemoto et al. disclose that the quality measure target generator generates a signal to interference ratio (SIR) target value. See paragraph [0032], lines 3-4.

Regarding claim 32, Kanemoto et al. disclose that the quality measure target generator includes a quality measure target estimator 109 to determine an estimated quality measure target value using channel parameters estimated by said channel estimator and a quality measure target correction unit 110 to correct said estimated quality measure target value based on performance information.

Regarding claim 33, Kanemoto et al. disclose that the performance information includes block error rate (BLER) information. See paragraph [0031], lines 6-8.

Regarding claim 34, Kanemoto et al. disclose a rake receiver 105 coupled to the despreader 104 to isolate multipath components associated with a particular base station and to combine the components coherently; a decoder 106 coupled to the rake receiver to decode a signal from the rake receiver into decoded signal information; and a cyclic redundancy check (CRC) unit 108 coupled between the decoder and the quality measure target correction unit to detect and quantify CRC errors from the decoded signal information. See paragraph [0030] and paragraph [0031], lines 6-8.

Regarding claim 37, Kanemoto et al. disclose a message generator 116 to generate a power control message based on the estimated actual quality measure value and the quality measure target value. See paragraph [0032], lines 9-10.

***Claim Rejections - 35 USC § 103***

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 22-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dahlman et al. in view of Takano et al. (US Patent Application Publication No. 2002/0061731).

Regarding claims 22, 24 and 26, Dahlman et al. disclose a communication system that includes a first and second quality measure target generators 25 and 28 to generate a first and second quality measure target value for base stations 100 (inherently several base stations in a mobile communication system) using estimated channel parameters for a communication channel between said mobile communicator MS and the first remote base station. See FIGS. 2 - 4 and col. 6, lines 9-20.

Dahlman et al. fail to disclose a site selection manager to select a remote base station, during handover, to act as a servicing base station for the mobile communicator using at least the first quality measure target value and said second quality measure target value.

In an analogous art, Takano et al. disclose a mobile communication control method and site selection system in which handover is based on quality measure target values at a mobile station. See paragraph [0014], for example. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the communication apparatus of Dahlman

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et al. by performing handover based on quality measure target values, as taught by Takano et al. for the purpose of providing a communication signal for the mobile station that has the optimal clarity based upon the level of interference in the signal.

Regarding claims 23, 27 and 28, Dahlman et al. disclose that the first and second quality measure target generators include SIR target generators. See col. 6, lines 16-20.

Regarding claims 25 and 29, Dahlman et al. disclose a message generator to generate a power control message for a remote base station based on a corresponding quality measure target value. See col. 6, lines 16-20.

6. Claims 5, 15 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dahlman et al. in view of Leung (US 6,452,917).

Regarding claims 5 and 15, Dahlman et al. fail to disclose estimating channel parameters using symbol energy variance information.

However, Leung discloses a CDMA communication system in which a channel estimator 310 uses variations in symbol energy to make channel estimates. See FIG. 3 and col. 5, lines 35-51. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the communication apparatus of Dahlman et al. by estimating channel parameters based on a variation in symbol energy as taught by Leung to make a more accurate assessment of channel conditions based on channel statistics as they vary with rapid changes.

Claim 20 incorporates the limitations of claims 15 and 17, and is therefore rejected for the same reasons as claims 15 and 17.

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7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dahlman et al. in view of Almgren et al. (WO 01/20808 A2).

Regarding claim 8, Dahlman et al. fail to disclose a communication apparatus including a channel estimator and a quality measure target generator, wherein the communication apparatus is a handheld communicator.

However, Almgren et al. disclose a channel estimator and a quality measure target generator (elements 30 and 40) in a mobile station that is a handheld cellular communicator. Moreover, Almgren et al. states that the apparatus can be implemented in a base station or a mobile station. See FIG. 1, page 5, lines 19-20 and page 6, line 8 – page 7, line 2. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the elements of the communication apparatus of Dahlman et al. by implementing them in a handheld communicator as taught by Almgren et al. to provide an improved power control method using quality indicators and a target value to the handheld communicator.

8. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kanemoto et al. in view of Leung.

Regarding claim 35, Kanemoto et al. fail to disclose estimating channel parameters using symbol energy variance information.

However, Leung discloses a CDMA communication system in which a channel estimator 310 uses variations in symbol energy to make channel estimates. See FIG. 3 and col. 5, lines 35-51. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the communication apparatus of Kanemoto et al. by estimating channel



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parameters based on a variation in symbol energy as taught by Leung to make a more accurate assessment of channel conditions based on channel statistics as they vary with rapid changes.

9. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kanemoto et al. in view of Almgren et al.

Regarding claim 38, Kanomoto et al. fail to disclose a communication apparatus including a channel estimator and a quality measure target generator, wherein the communication apparatus is a handheld communicator.

However, Almgren et al. disclose a channel estimator and a quality measure target generator (elements 30 and 40) in a mobile station that is a handheld cellular communicator. Moreover, Almgren et al. states that the apparatus can be implemented in a base station or a mobile station. See FIG. 1, page 5, lines 19-20 and page 6, line 8 – page 7, line 2. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the elements of the communication apparatus of Kanemoto et al. by implementing them in a handheld communicator as taught by Almgren et al. to provide an improved power control method using quality indicators and a target value to the handheld communicator.

#### ***Response to Arguments***

10. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

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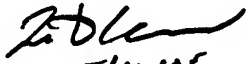
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Bhattacharya whose telephone number is (571) 272-7917.

The examiner can normally be reached on Weekdays, 9-6, with first Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester G. Kincaid can be reached on (571) 272-7922.

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5/16/05  
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PRIMARY EXAMINER